

NOTICE OF A PROBABLE NEW SPECIES
OF DENDROLAGUS;

BY

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THE relics before you, scanty as they are, seem to indicate the existence in Queensland of a species of *Dendrolagus* not identical with that which a short time ago was found by Dr. Lumholtz in the mountain scrubs of the Herbert River, and described by Mr. R. Collett under the name, *D. lumholtzi*. The animal now claiming attention was obtained alive by Mr. Smith, a resident on the Daintree River, from whom the skin was received, through the instrumentality of Mr. J. Pink, Curator of the Botanical Gardens. Unfortunately we have almost nothing more than the skin in question, and that by no means perfect, to mould our judgment upon, and though there are several characters pertaining to it which appear sufficient in themselves to distinguish it from that of any known member of the genus, it would hardly be satisfactory to diagnose a species from it alone. Till further materials are in hand, we must be content to invite attention to it in the general terms of description.

The hair is of one kind, that is, without intermixture of wool. On the back moderately long, glossy, rather soft, and in colour blackish-brown, especially towards the median line which, however, is not marked by a dorsal stripe; individual hairs are here deep brown at the base, broadly ringed with yellow at and below the middle, and nearly black on the distal half. On the mantle the tint becomes suffused with yellowish-red from the gradual loss of the black tips, and this passes into nearly brick-red on the nape and throat, yellowish on the shoulders and fore-limbs, and duskiest red on the top of the head. The haunches, thighs, and hinder part of the belly are smoky grey, washed with a pale yellow tipping each hair. The middle of the belly is dark rufous-brown, the rump light brown, which colour

descends over the base of the tail and spreads around the vent. The upper surface of the base of the tail is deep brown in a patch, which tint also descends obliquely to the lower surface where it becomes black and continues so along that surface to the tip. The deep brown patch on the upper part of the base fades into light rufous-brown, which extends on the upper surface to its distal third, where it passes into black. The hands and feet are black, the face reddish-grey, becoming silky fawn on the frontal region, the ears deep brown externally, yellowish-brown within. The tail, which is somewhat imperfect, is still considerably longer than the head and body together; it is clothed with coarse recumbent hairs which gradually lengthen distally and appear to form a tuft at the tip. The hair of the back radiates from a point well behind the shoulders; that of the neck, proceeding forward, is continued over the head to the forehead, where it meets the backwardly directed hair of the facial region and with it forms a transverse ridge directed downwards and forwards behind the eyes towards the under surface of the head.

From these details the following brief characters may be derived:—Tail much longer than head and trunk together, hair of the neck and that of the head meeting in a ridge across the frontal region; on the back dark brown, mantle and fore limbs rufous-brown, passing into red on the neck; tail, parti-coloured.

I have no skin of Mr. Collett's *D. lumholtzi* to compare with this, but, judging from the figure and description of that species in the "Proceedings of the Zoological Society of London, 1884," p 387, I cannot but think it quite unlike the one under notice, more especially as it would appear from a remark of Mr. Collett that the colouring of his species is pretty constant. Its black head, whitish throat, and the comparatively uniform colouring of its short tail are the leading points in which *D. lumholtzi* appears to differ from its more northern congener. The rather brief description of it given unfortunately does not mention the disposition of the hair. This Daintree River animal resembles *D. brunii* in the length of its tail, and Mr. Ramsay's *dorianus* in having that organ distinctly parti-coloured, but it may be observed that in *brunii* the hair ridge is behind the head,

in the other New Guinea species between the ears, and these differences are accompanied by others which are on the whole sufficiently distinctive.

We have as yet very scanty information about the habits and range of these curious marsupials. It is to be hoped that both will be ascertained before the extermination of animals so defenceless and unadaptive is brought about, as it will be at no distant day, by the destruction of our coast scrubs; for it seems probable that from the knowledge to be acquired respecting them, not a little may be inferred respecting the conditions of marsupial life in the old diprotodont days of rain and exuberant vegetation.

Were I warranted in proposing a name for this supposed species, I would at once yield to a desire to dignify it by association with that of one of our oldest and most respected Australian naturalists, Dr. G. Bennett, who has so often insisted on the probability of *Dendrolagus* being indigenous to Queensland. Should it prove that the skin before us really represents a distinct species, I trust that the name *D. Bennettianus* will be the one conferred upon it.

To those who take an interest in the great question of evolution, the case before us, that of the tree-kangaroo (so-called), is one worth consideration. We have here a non-saltatory modification, both in habit and structure, of the saltatory family of the marsupials. From the evolution point of view we may ask whence was it derived? From the non-evolution standpoint more directly, what are its nearest relatives? Were we to suffer ourselves to be guided by general similarity and a certain resemblance in seating and balancing faculties, we should trace the tree-kangaroo to the rock wallaby, since, superficially considered, the passage from the one into the other may appear of easy accomplishment by insensible degrees. But it happens that it is almost certain that *Dendrolagus* is not a modified *Petrogale*, but stands in the relation of either ancestor or descendant of the kangaroo-rats, the proof being that it has the peculiar dentition of that section of the *Macropidæ*, namely, the enormous trenchant premolar and the rudimentary canine. Had it been known by its jaws only, it would have been impossible to predicate from them its arboreal habits and adaptations,

so widely different to those of the burrowing and nest-making kangaroo-rats. At present we are unable to point to any intermediate stepping stone from one to another serving to show how the passage was accomplished, but on the other hand there is no inherent improbability in the kangaroo-rats of a dense scrub country taking to the trees upon which alone they could in such circumstances find subsistence. It is far more difficult to explain on the opposite hypothesis why the tree-kangaroo should have been created with the teeth of the kangaroo rats of the plains, rather than with those of the native bear or opossum of the trees, or with an entirely different type of dentition. The explanation offered by the doctrine of natural selection is easy and rational. Those parts of the structure which required modification for a different mode of life—namely, the limbs—were so modified: those that were not so modified—the teeth—remained unchanged, because no great change in them was necessary.

The discovery of these peculiar wallabies, if we may so call them, in Queensland strengthens the opinion formed on other grounds as to the direction of dispersion of the Australasian marsupials generally, viz., that it was from South to North. Australia proper is even now their headquarters, but it is that of a seven times decimated army. The remains of the kangaroo tribe buried in the Darling Downs drift represent probably more species in that single river valley than are now living in all the continent. It is, however, curious that *Dendrolagus* has not been found among them as yet, possibly it may be a late development adapted to the present conditions of our coast and of New Guinea. Should it, however, eventually be found fossil, as most probably it will be, it will serve to show how large a portion of the land was then covered with jungle, similar to those small strips to which the surviving forms are now limited.
